

Abstract

An improved telescopic front suspension system is disclosed for use with vehicles having a front wheel, such as bicycles and motorcycles. The assembly includes a steering tube mounted in a head tube of the vehicle frame and connected to a stem and handlebar above the head tube and to a fork crown below the head tube. The crown is attached to a pair of stanchions which slide axially inside of a pair of sliders mounted to each side of the axle for the front wheel. The stanchions and sliders have a cross-sectional shape that is a non-round, smooth curve, such as an ellipse. The upper end of the sliders provides a mounting for an external bushing whose inner shape matches the outer shape of the stanchions. The lower end of the stanchions provides a mounting for an internal bushing whose outer shape matches the inner shape of the sliders. The bushing arrangement and non-round, smooth shape of the stanchions and sliders allow them to freely telescope while preventing rotation between the parts, which may otherwise occur due to steering loads and bump impacts at an angle to the front wheel. Preventing rotation of the parts relative to each other results in more precise steering control for the rider.